NOVEMBER/DECEMBER 2024

# FEL53/CEL53/BEL53 — ELECTRICAL AND ELECTRONIC INSTRUMENTATION

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Define accuracy and precision.

2. What is sensitivity?

3. What is called Maxwell's bridge?

4. Define the dissipation factor.

5. What is electron gun?

6. Define deflection sensitivity.

7. Mention the features of an instrumentation amplifier.

8. What is digital voltmeter?

9. What do you mean by resistance thermometer?

10. What is LCD?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Enumerate the types of errors.

Or

(b) Describe how a galvanometer is converted into a voltmeter.

12. (a) Explain the Kelvin bridge.

Or

(b) Describe the Schering's bridge.

13. (a) Describe the electrostatic deflection.

Or

(b) Enumerate the digital storage oscilloscopes.

14. (a) Explain the heterodyne wave analyser.

Or

(b) Discuss the working of a electronic voltmeter.

15. (a) Describe the unbonded strain gauge.

Or

(b) Explain the seven segment display.



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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the working of PMMC galvanometer.

17. Describe the wheatstone's bridge. Also obtain the balancing condition.

18. Discuss the working of CRT.

19. Describe the instrumentation amplifier.

20. Explain the operating principle of LVDT.

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